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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,422	01/10/2002	Kazumitsu Nakatsuka	217962US0PCT	5990
22850	7590	06/29/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			FUBARA, BLESSING M	
			ART UNIT	PAPER NUMBER
			1618	

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/030,422		NAKATSUKA, KAZUMITSU	
	Examiner		Art Unit	
	Blessing M. Fubara		1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-19,21,25,26 and 28-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-19,21,25,26 and 28-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Examiner acknowledges receipt of response to nonresponsive letter filed 4/05/06; request for extension of time, amendment and remarks, all filed 12/12/05. Claims 7-19, 21 and 25 and 26 are amended. New claims 29-43 are added. Thus claims 7-19, 21, 25, 26 and 29-43 are pending.

Upon further review and consideration, applicant's statement regarding the amended claims filed 12/12/05 is persuasive.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7-19, 21, 25, 26 and 29-43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a written description rejection.

To satisfy the written description requirement, applicant must convey with reasonable clarity to one skilled in the art, as of the filing date that application was in possession of the claimed invention. There is no description in the specification for strong basic acid salt.

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The specification does not inform the public of the limits of the monopoly asserted as it regards to strong basic salt.

4. Claims 7-19, 21, 25, 26 and 29-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite “strong basic acid salt” and it is not clear how an acid salt can be a strong base.

Claim Rejections - 35 USC § 102

5. The rejection of claims 7-13, 15-19 and 21 under 35 U.S.C. 102(b) as being anticipated by Smith, Jr. (US, 5,399,343) is withdrawn in view of the amendment to the claims, which now recite method of treating teeth with antimicrobial agent.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 7-19, 21, 25, 26 and 29-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imazato et al. (US 5,733,940 and previously cited).

Imazato provides an antimicrobial dental composition comprising an antimicrobial polymerizable monomer, a polymerizable monomer having acidic group, a polymerizable monomer having alcoholic hydroxy group, water and a polymerization catalyst (column 2, lines 27-34) and discloses that the composition may be mixed with dental acrylic adhesive comprising

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polymerizable monomer of acrylic base and polymerization initiator (column 6, line 66 to col. 7, line 27,). Imazato also discloses pyridinium antimicrobial agent and the antimicrobial pyridinium has polymerizable group. Imazato discloses 12-methacryloxydodecylpyridiniumbromide (MDPB) having the chemical structure shown in Formula 4 as the antimicrobial polymerizable monomer used in the invention (Examples 1-24 and claim 5). MDPB is an antibacterial polymerizable pyridinium salt compound, as claimed by Applicant.

With regard to the polymerizable monomer having acidic group (b) claimed in claim 7 of the instant application, the patent discloses polymerizable monomers having acidic group, such as phosphoric acid, carboxylic acid or sulfonic acid group, and includes methacryloyloxydecyl dihydrogen phosphate (MDP) among said polymerizable monomers (column 5, lines 20-60 and Examples 5-12).

With respect to the hydrophilic polymerizable monomer (c) claimed in claim 7 of the instant application, the patent discloses polymerizable monomers having alcoholic hydroxy group, and includes 2-hydroxyethyl methacrylate (HEMA) among said monomers (column 5, line 61 to column 6, line 11 and Examples 1-8). The polymerizable monomers having alcoholic hydroxy group disclosed by the Imazato, and specifically HEMA, are hydrophilic polymerizable monomers, as claimed by Applicant. With respect to the water (d) claimed in claim 7 of the instant application, Imazato provides water substantially free of impurities in the composition of the invention (See col. 6, lines 12-21).

Imazato does not disclose the presence of base such as sodium in the dental composition. However, it is well known to provide compositions that have suitable pHs to biological

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environment. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a base to the composition in order to adjust the pH to dental environment acceptable pH in the dental milieu.

Response to Arguments

8. Applicant's arguments filed 12/12/05 have been fully considered but they are not persuasive.


Regarding suggestion from the prior art, it is noted in response to applicant's argument that there is no suggestion to modify the reference, the examiner recognizes that obviousness can only be established by combining or **modifying the teachings** of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it is known that compositions adapted for physiological use approximates to physiological pH (for example, see Examples 1-8 of US 5,770,182 to Fisher where base such as sodium hydroxide is used to adjust and maintain the pH.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blessing M. Fubara whose telephone number is (571) 272-0594. The examiner can normally be reached on 7 a.m. to 5:30 p.m. (Monday to Thursday).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Hartley can be reached on (571) 272-0616. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Blessing Fubara
Patent Examiner
Tech. Center 1600